

the particular embodiment described. Further, the embodiment described herein is to be regarded as illustrative rather than restrictive. Variations and changes may be made by others, and equivalents employed, without departing from the spirit of the present invention. Accordingly, it is expressly intended that all such variations, changes and equivalents which fall within the spirit and scope of the invention be embraced thereby.

What is claimed is:

1. A seat apparatus for directing temperature controlled air to an individual seated on the seat apparatus, comprising:

a sitting portion contacted by a seated individual seated on the sitting portion, the sitting portion including a filling member, the sitting portion possessing a sitting side facing an individual seated in the sitting portion and an oppositely positioned non-sitting side, said filling member including at least one groove extending over a limited surface area of the filling member on the sitting side, and a material positioned in the at least one groove that is different from the filling member;

a cover member encircling the filling member;

an air vent provided in the filling member and extending from adjacent the non-sitting side of the sitting portion towards the sitting side of the sitting portion, said air vent communicating with the at least one groove;

a temperature controlled air producing device for producing temperature controlled air and directing the temperature controlled air into the air vent, with the temperature controlled air being directed through the air vent and into the at least one groove to provide temperature controlled air to a seated individual in contact with the sitting side of the sitting portion.

2. A seat apparatus according to claim 1, wherein the sitting portion is a seat back.

3. A seat apparatus according to claim 1, wherein the sitting portion is a seat cushion.

4. A seat apparatus according to claim 3, including a seat back that is comprised of a filling member provided with at least one groove, the filling member of the seat back including an air vent that communicates with the at least one groove in the filling member of the seat back, the filling member of the seat back being covered by a cover member.

5. A seat apparatus according to claim 4, including a temperature controlled air producing device connected to the air vent in the filling member of the seat back for producing temperature controlled air and directing the temperature controlled air into the air vent in the filling member of the seat back, with the temperature controlled air being directed to the at least one groove in the filling member of the seat back to provide temperature controlled air to a seated individual in contact with the seat back.

6. A seat apparatus according to claim 1, wherein said filling member includes a plurality of spaced apart grooves, each connected to the air vent.

7. A seat apparatus according to claim 1, wherein said material in the at least one groove is a first mesh material.

8. A seat apparatus according to claim 7, including a second mesh material covering the first mesh material and a portion of the filling member.

9. A seat apparatus for blowing air to an individual seated on the seat apparatus, comprising:

a sitting portion which is contacted by a seated individual, the sitting portion having a sitting side and a non-sitting side, said sitting portion including a filling member, an air vent extending from adjacent the non-sitting side of the sitting portion towards the sitting side of the sitting portion;

a plurality of grooves formed in the filling member and each connected to the air vent, said plurality of grooves being spaced apart from one another and extending in different directions;

a material positioned in at least one of said grooves that is different from said filling member; and

an air control device operatively connected to the air vent for blowing air into the air vent, with the air being directed from the air vent into the grooves so that air is directed at the seated individual.

10. An apparatus according to claim 9, wherein the sitting portion is a seat cushion.

11. An apparatus according to claim 9, wherein the sitting portion is a seat back.

12. An apparatus according to claim 9, including a power supply for supplying electric power to the air temperature control device.

13. A seat apparatus according to claim 9, including a three dimensional mesh covering the sitting portion.

14. A seat apparatus according to claim 9, wherein said at least one groove is filled with a three dimensional mesh.

15. A method of blowing temperature controlled air to an individual seated on a sitting portion of a seat apparatus, comprising:

producing temperature controlled air; supplying the temperature controlled air to an air vent that is connected to a plurality of mesh filled grooves which extend in different directions; and

distributing the temperature controlled air through the plurality of grooves and through the mesh to selected portions of the sitting portion of the seat apparatus based on a pressure distribution of the individual sitting on the sitting portion of the seat apparatus.

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a sitting portion contacted by a seated individual seated on the sitting portion, the sitting portion including a filling member, the sitting portion possessing a sitting side adapted to face an individual seated on the sitting portion and an oppositely positioned non-sitting side, said filling member including at least one groove extending over a limited surface area of the filling member on the sitting side;

a cover member encircling the filling member;

an air vent provided in the filling member and extending from adjacent the non-sitting side of the sitting portion towards the sitting side of the sitting portion, said air vent communicating with the at least one groove;

a temperature controlled air producing device for producing temperature controlled air and directing the temperature controlled air into the air vent, with the temperature controlled air being directed through the air vent and into the at least one groove to provide temperature controlled air to a seated individual in contact with the sitting side of the sitting portion.

17. The seat apparatus according to Claim 16, wherein said filling member includes a plurality of spaced apart grooves each extending over a limited surface area of
the filling member, each of said grooves communicating with said air vent.

18. The seat apparatus according to Claim 16, wherein said sitting portion is a seat cushion, and including a seat back that includes a filling member and at least one groove extending over a limited surface area of the filling member of the seat back.

19. The seat apparatus according to Claim 18, wherein said at least one groove of the filling member of the seat back communicates with an air vent, and including a peltier element communicated with the air vent that is in communication with said at least one groove of the filling member of the seat back.

20. The seat apparatus according to Claim 18, wherein said temperature controlled air producing device includes a peltier element communicated with the air vent that is in communication with said at least one groove of the filling member of the seat cushion.

21. A seat apparatus for directing temperature controlled air to an individual seated on the seat apparatus, comprising:

a seat cushion that includes a filling member, said seat cushion possessing a sitting side adapted to face towards an individual seated on the seat cushion and a non-sitting side;

a seat back that includes a filling member, the seat back possessing a sitting side adapted to face towards an individual seated on the seat back and a non-sitting side;

at least one groove extending over a limited surface area of the filling member of at least one of the seat cushion and the seat back, the at least one groove opening in a direction towards the sitting side of said at least one of the seat cushion and the seat back ;

an air vent communicated with the at least one groove;

a fan communicating with the air vent to direct air towards the air vent; and

an air temperature controlling device positioned between the fan and the air vent to control a temperature of the air directed to the air vent and into the at least one groove to provide temperature controlled air to an individual seated on the seat cushion and the seat back.

22. The seat apparatus according to Claim 21, wherein the filling member of said at least one of the seat cushion and the seat back includes a plurality of spaced apart grooves each extending over a limited surface area of the filling member of said at least one of the seat cushion and the seat back, each of said grooves communicating with said air vent.

23. The seat apparatus according to Claim 21, wherein said at least one groove is provided in the filling member of the seat cushion, and including at least one groove extending over a limited surface area of the filling member of the seat back.

24. The seat apparatus according to Claim 23, wherein said at least one groove extending over a limited surface area of the filling member of the seat back communicates with an air vent, and including a peltier element communicated with the air vent that communicates with said at least one groove extending over a limited surface area of the filling member of the seat back.

25. The seat apparatus according to Claim 18, including a cover member covering the seat cushion and a cover member covering the seat back.

26. A seat apparatus for directing temperature controlled air to an individual seated on the seat apparatus, comprising:
a seat cushion possessing a sitting side adapted to face towards a seated individual and a non-sitting side;
a seat back possessing a sitting side adapted to face towards a seated individual and a non-sitting side;
at least one of the seat cushion and the seat back including a filling member;
at least one groove extending over a limited surface area of the filling member and opening in a direction towards the sitting side of the at least one of the seat cushion and the seat back;
an air vent communicated with the at least one groove; and
a peltier element communicating with the air vent to control a temperature of air directed to the air vent and into the at least one groove to provide temperature controlled air to an individual seated on said at least one of the seat cushion and the seat back.

27. The seat apparatus according to Claim 26, wherein the filling member includes a plurality of spaced apart grooves each extending over a limited surface area of the filling member.

28. The seat apparatus according to Claim 27, wherein each of the grooves communicates with the air vent.

29. The seat apparatus according to Claim 26, wherein the seat cushion includes the filling member, the seat back including a filling member and at least one groove extending over a limited surface area of the filling member of the seat back.

30. The seat apparatus according to Claim 29, wherein the at least one groove extending over a limited surface area of the filling member of the seat back communicates with an air vent, and including a peltier element communicated with the air vent that communicates with the at least one groove extending over a limited surface area of the filling member of the seat back.

31. The seat apparatus according to Claim 26, wherein the seat cushion includes the filling member, the seat back including a filling member and a plurality of spaced apart grooves each extending over a limited surface area of the filling member of the seat back.

32. The seat apparatus according to Claim 26, wherein the seat back includes the filling member.

33. The seat apparatus according to Claim 26, including a cover member covering the seat cushion and a cover member covering the seat back.

34. The seat apparatus according to Claim 26, wherein the at least one groove includes side walls and a bottom wall.

CLAIMS	EXAMPLES OF WHERE SUPPORT EXISTS IN U.S. PATENT NO. 6,062,641 FOR CLAIM RECITATIONS
16. A seat apparatus for directing temperature controlled air to an individual seated on the seat apparatus, comprising:	Figs. 1-4; original patent Claim 1; column 1, lines 32-34.
a sitting portion contacted by a seated individual seated on the sitting portion, the sitting portion including a filling member, the sitting portion possessing a sitting side adapted to face an individual seated on the sitting portion and an oppositely positioned non-sitting side, said filling member including at least one groove extending over a limited surface area of the filling member on the sitting side;	Figs. 1-4; original patent Claim 1; column 2, lines 28-44.
a cover member encircling the filling member;	Fig. 1; original patent Claim 1; column 2, line 66-column 3, line 1.
an air vent provided in the filling member and extending from adjacent the non-sitting side of the sitting portion towards the sitting side of the sitting portion, said air vent communicating with the at least one groove;	Figs. 1, 3 and 4; original patent Claim 1; column 2, lines 31-37.
a temperature controlled air producing device for producing temperature controlled air and directing the temperature controlled air into the air vent, with the temperature controlled air being directed through the air vent and into the at least one groove to provide temperature controlled air to a seated individual in contact with the sitting side of the sitting portion.	Fig. 1; original patent Claim 1; column 3, lines 15-35.
17. The seat apparatus according to Claim 16, wherein said filling member includes a plurality of spaced apart grooves each extending over a limited surface area of the filling member, each of said grooves communicating with said air vent.	Figs. 3 and 4; original patent Claim 6; column 2, lines 31-37.

18. The seat apparatus according to Claim 16, wherein said sitting portion is a seat cushion, and including a seat back that includes a filling member and at least one groove extending over a limited surface area of the filling member of the seat back.	Fig. 4; original patent Claims 3 and 4; column 2, lines 28-44; and column 4, lines 19-27.
19. The seat apparatus according to Claim 18, wherein said at least one groove of the filling member of the seat back communicates with an air vent, and including a peltier element communicated with the air vent that is in communication with said at least one groove of the filling member of the seat back.	Fig. 1; column 3, lines 15-35; and column 4, lines 19-56.
20. The seat apparatus according to Claim 18, wherein said temperature controlled air producing device includes a peltier element communicated with the air vent that is in communication with said at least one groove of the filling member of the seat cushion.	Fig. 1; column 3, lines 15-35; and column 4, lines 19-56.
21. A seat apparatus for directing temperature controlled air to an individual seated on the seat apparatus, comprising: a seat cushion that includes a filling member, said seat cushion possessing a sitting side adapted to face towards an individual seated on the seat cushion and a non-sitting side; a seat back that includes a filling member, the seat back possessing a sitting side adapted to face towards an individual seated on the seat back and a non-sitting side;	Figs. 1-4; original patent Claim 1; column 1, lines 32-34. Figs. 1-4; column 2, lines 28-30. Figs. 1 and 4; patent Claim 4; column 4, lines 19-27.

Fig. 1; column 4, lines 46-50.

25. The seat apparatus according to Claim 18, including a cover member covering the seat cushion and a cover member covering the seat back.

Fig. 1; column 2, line 66-column 3, line 1;
column 4, lines 37-38.

26. A seat apparatus for directing temperature controlled air to an individual seated on the seat apparatus, comprising:

Figs. 1-4; original patent Claim 1; column 1, lines 32-34.

a seat cushion possessing a sitting side adapted to face towards a seated individual and a non-sitting side;

Figs. 1-4; column 2, lines 28-30.

a seat back possessing a sitting side adapted to face towards a seated individual and a non-sitting side;

Figs. 1 and 4; original patent Claim 4; column 4, lines 19-27.

at least one of the seat cushion and the seat back including a filling member;

Figs. 1 and 4; column 2, lines 28-30; and column 4, lines 19-27.

at least one groove extending over a limited surface area of the filling member and opening in a direction towards the sitting side of the at least one of the seat cushion and the seat back;

Figs. 1-4; column 2, lines 38-43; and column 4, lines 19-27.

an air vent communicated with the at least one groove; and

Figs. 1, 3 and 4; column 2, lines 30-38; and column 4, lines 19-27.

a peltier element communicating with the air vent to control a temperature of air directed to the air vent and into the at least one groove to provide temperature controlled air to an individual seated on said at least one of the seat cushion and the seat back.

Fig. 1; column 3, lines 14-27.

27. The seat apparatus according to Claim 26, wherein the filling member includes a plurality of spaced apart grooves each extending over a limited surface area of the filling member.	Figs. 3 and 4; column 2, lines 38-43; and column 4, lines 19-27.
28. The seat apparatus according to Claim 27, wherein each of the grooves communicates with the air vent.	Figs. 3 and 4; column 2, lines 38-43; and column 4, lines 19-27.
29. The seat apparatus according to Claim 26, wherein the seat cushion includes the filling member, the seat back including a filling member and at least one groove extending over a limited surface area of the filling member of the seat back.	Figs. 1 and 4; column 2, lines 28-30; and column 4, lines 19-27.
30. The seat apparatus according to Claim 29, wherein the at least one groove extending over a limited surface area of the filling member of the seat back communicates with an air vent, and including a peltier element communicated with the air vent that communicates with the at least one groove extending over a limited surface area of the filling member of the seat back.	Figs. 1 and 4; column 2, lines 30-38; column 3, lines 14-27; and column 4, lines 19-27.
31. The seat apparatus according to Claim 26, wherein the seat cushion includes the filling member, the seat back including a filling member and a plurality of spaced apart grooves each extending over a limited surface area of the filling member of the seat back.	Figs. 1 and 4; column 2, lines 28-30; and column 4, lines 19-27.
32. The seat apparatus according to Claim 26, wherein the seat back includes the filling member.	Fig. 1; column 4, lines 19-27.

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33. The seat apparatus according to Claim 26, including a cover member covering the seat cushion and a cover member covering the seat back.	Fig. 1; column 2, line 66-column 3, line 1; column 4, lines 37-38.
34. The seat apparatus according to Claim 26, wherein the at least one groove includes side walls and a bottom wall.	Fig. 2.